

Linguistic competence as a precondition for introducing tertiary-level instruction in English

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Abstract. *Student and teacher mobility are important aspects of education within the Bologna Process. Overcoming the language barrier is a precondition for following and providing instruction in a foreign language. A survey was conducted among first-year undergraduate students to determine their readiness for instruction in English.*

The survey results show the respondent profile, their assessment of instruction within an English language course, using other ways of acquiring knowledge and self-assessment of their command of English.

The students' self-assessment of motivation for learning English and its relevance for their profession are presented along with students' interest in other courses offered in English.

Keywords. linguistic competence, Bologna Process, learning English

1 Introduction

1.1 Bologna Process, mobility and English language

The Bologna Declaration [4], the cornerstone of the Bologna Process, represents a Europe of Knowledge as “an irreplaceable factor for social and human growth ... , capable of giving its citizens the necessary competences to face the challenges of the new millennium”, wherein the importance of education and educational co-operation is particularly emphasized.

The idea is to establish the European area of higher education and to promote the European system of higher education worldwide, resting on the objectives of primary relevance, among which is the

“promotion of mobility by overcoming obstacles to the effective exercise of free movement with particular attention to:

- for students, access to study and training opportunities and to related services
- for teachers, researchers and administrative staff, recognition and valorisation of periods spent in a European context researching, teaching and training, without prejudicing their statutory rights” [4].

In Croatia efforts toward promoting mobility have been expressed in the latest National reports on Bologna reforms [5], according to which “one of the main obstacles for incoming students is the language barrier, since there are few programs offered in English” [5, 19].

In its Declaration on Encouraging Participation in International Exchange Programmes [6], the University in Zagreb highlights the preconditions for better horizontal mobility, among which is “offering university programmes in foreign languages, and establishing joint study programmes with foreign Partners” [6, 2].

Furthermore, before the Republic of Croatia enters the life-long learning program, preparations need to be made at the University in Zagreb so as to ensure sufficient readiness to meet its requirements. It is therefore necessary to:

- “deliver programmes in English as well
- offer a one-semester study programme (30 ECTS) for exchange students (at the level of a faculty and a discipline) by delivering instruction (courses, modules) in English
- enable exchange students to acquire ECTS in different faculties / departments (...)
- particularly recognize the activities related to mobility in the Rectors' Council criteria concerning teachers' promotion

- encourage foreign teachers' visits in Croatian universities and Croatian teachers' visits in foreign universities
- establish joint study programmes, especially at the master's and doctoral level
- approve the writing and evaluation of qualificatory work (master's theses, doctoral dissertations) in English as well" [6, 4].

The University of Zagreb therefore passed the Action Plan on Encouraging International Cooperation [7], with the view to accelerating the increase in the annual exchange of students and teachers, according to which in the academic year 2010/11 the number of student exchanges should grow tenfold and the number of teacher exchanges should mark a four-fold growth compared to the academic year 2006/2007 [7, 2].

However, before that the University needs to fulfil the following criteria: "offer programmes in a foreign language (English), (...) and prepare information material in English" [7, 6]. In the same document, at the University programmes are planned "in English as well, with students being able to choose the language in which they want them to be delivered", in some faculties courses in a foreign language are combined within a one-semester programme for exchange students, whereas "literally every faculty or academy should offer at least one course – obligatory or elective – in English or another world language" [7, 4].

To comply with these plans, at the Faculty of Organization and Informatics the initiative was begun of offering courses to be delivered in English. The following eight courses have thus been offered: Selected Chapters in Biometrics, Business Communication, Discrete Structures and Graph Theory, Business Processes in Organizations, Operations Research, Decision Theory, Multimedia Systems and Databases 1.

The above indicates the importance of English from the aspect of the language barrier to successful mobility of both students and teachers, especially considering that it can be predicted that English will be the future language of global education [9, 871].

1.2 The role of English in professional and academic context in EU and Croatia

Teaching English as a foreign language at the tertiary level has to be considered from various aspects so as to meet the requirements of the emerging socio-political, educational and economic European context in which linguistic policy is one of most prominent aspects of integration of EU. Including foreign language courses into tertiary-level curricula in universities is justified by the fact that both "the learning and teaching of other languages has come to be seen as a cornerstone of EU policy for education and training for living and working in the knowledge society" [1, 1]. Creation of a European higher

education area and a European research area on the one hand and demands of an increasingly integrated European labour market on the other also rely on the responsibility of universities to embrace developing students' basic skills including IT skills, foreign languages, technological culture, entrepreneurship and social skills as principal roles of the education system. Therefore, in its efforts to join EU, Croatia is to recognize the necessity to provide "all students in undergraduate education the opportunity to take a number of credits in languages" [1, 4], and foster their linguistic independence both through foreign language courses and those combining students' core disciplines with linguistic studies. The EU language policy is that of multilingualism, aiming at its citizens reaching a level of proficiency in two foreign languages, each of them being assigned a different role ("English considered as a language for communication among students of all countries" and the second European Language "a vehicle to increase cross-border cultural exchange" [2, 2]). It can be expected that English will be the most likely medium of instruction in foreign language as it is also "the medium of a great deal of the world's knowledge, especially in such areas as science and technology", providing access to "the latest thinking and research in a subject" [10, 110-11]. In line with that, the research described in this paper focuses on the English language as the most likely medium of instruction in foreign language in Croatian universities, with foreign language competence (in any European language) as one of the key vehicles of student mobility.

1.3 Foreign language courses in Croatian universities

In most Croatian universities, foreign language courses have been included in the undergraduate curricula of non-language study programmes, although the number of teaching hours, the status of the course (mandatory/elective), the students' workload and, consequently, the ECTS credits awarded for such courses are by no means uniform [3, 110]. Additionally, depending on the institution, the perception of the importance and role of tertiary foreign language courses varies considerably. The somewhat paradoxical situation in which "foreign languages are often not seen as an integral part of academic expertise" and are considered merely as "an optional aid" despite the demands such as study abroad, international work practice, future employment etc. was recorded both in Croatian [3, 110-11] and European [8, 35-37],[8, 72] universities. Such a situation can be accounted for by the fact that the attitude according to which students will have acquired a sufficient level of proficiency in a foreign language prior to entering university is not uncommon [3, 111-12]. The principal reason countering such an attitude, however, lies in a different character and

objectives of the language courses taught in universities, i.e. English for specific purposes (ESP) and English for academic purposes (EAP), which both speak in favour of their inclusion in the study programme. When it comes to the level of proficiency acquired, it would be a sound policy to assume that the level of complexity increases, rather than decreases, with the level of proficiency, and thus additional training – especially in the lexical and syntactic complexities of technical, field-specific language – is welcome. In other words, although students may come to university with a fair amount of knowledge of English they need to acquire skills and strategies that will “make the learners into better processors of information” [11, 70]. So the purpose of such courses is twofold: apart from their specific goals – exposing students to technical vocabulary, making them gain awareness of subtechnical and academic vocabulary and familiarize themselves with the structural features of a particular technical jargon, or scientific jargon, a more general goal of ESP/EAP can be summed up as acquiring linguistic competence (both production and interaction, i.e. active and passive) as a vehicle for successful integration into a respective professional community [14, 272-73]. Along with computer literacy, English seems to have joined the list of basic learning skills and is no longer perceived by students as a foreign language but a generic skill [12, 72].

1.4 English in undergraduate study programmes at the Faculty of Organization and Informatics

Along with all the other courses, foreign language courses (English / German for Specific Purposes) at the Faculty of Organization and Informatics have recently been undergoing a process of curricular review – both at the study course and faculty level. One of the greatest challenges in that respect has been adjusting – redefining – the goals of foreign language courses so as to make them comply more closely with the overall study programme and its curriculum. Perceived as generic skills needed by students to successfully pursue their studies, foreign languages have been incorporated into the learning outcomes at the level of the undergraduate study programme, beyond the learning outcomes of a particular language course. The study programme outcomes in which foreign languages figure prominently are the following:

- successfully communicate with clients, users and colleagues in speaking and writing by using the appropriate technology, including the ability to communicate about one’s profession in a foreign language;
- use technical literature in Croatian or a foreign language, prepare and independently deliver a presentation in Croatian or a foreign language to a professional audience and general public

and provide critical evaluation of the presented professional topic;

- understand and apply learning skills needed for life-long learning and the continuation of education at the graduate level [13].

In order to predict the possibility of student mobility and the impact of language upon mobility among students of the Faculty of Organization and Informatics, a survey was conducted among students. Since the study course English Language 1 is a language course enrolled in by most students in the undergraduate study programme, students attending this course were chosen as respondents. The survey was administered on a single occasion, in January 2008.

2 Survey

2.1 Respondents

The survey included 193 respondents – students of the undergraduate study programme in Information and Business Systems enrolled in English Language 1. 187 of the respondents are first-year students, with 3 respondents each being second- and third-year students. 147 or 76.17% of the respondents are male, 43 or 22.28% are female, and in cases of three respondents (1.55%) data on gender are missing. The obtained data reflect the gender structure of the entire study programme.

Out of the 193 respondents, 81 or 41.97 % are full-time Ministry-funded students, 108 or 55.96% are full-time fee-paying students paying a part of their tuition and 1 or 0.52% part-time students, that is, working students financing their education through personal sources. In cases of three respondents data on student status are missing.

Variations in age among respondents are expectedly small and amount to 5 years (respondents’ age ranging from 19 to 24), the average age being 20, and the coefficient of variation 3.46 % ($V= 3.46\%$), which indicates a homogeneous set of respondents.

2.2 Instrument

The administered survey questionnaire contains three logical units.

1. Apart from the general data on respondents, data on the years of learning (general and technical) English and the final high-school grade are first collected, along with the self-assessment of passive and active linguistic competence in English, motivation for learning English, and satisfaction with the content, methods and teaching material in English Language 1.

2. Next, students’ interest in enrolling in the offered courses in English is investigated along with their motivation, readiness and perception of importance.

3. In the last section of the questionnaire reasons for students' perception of importance of linguistic competence in English is investigated, in the context of their studies and their future profession.

3 Results

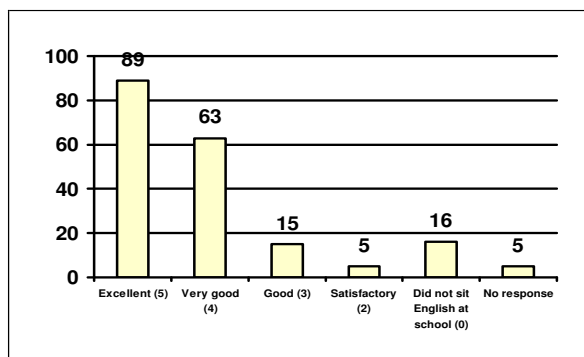
3.1 Formal indicators of pre-knowledge of English

To obtain formal indicators of students' pre-knowledge of English, respondents were asked to state the number of years of learning general English and technical English, as well as the final high school grade in English (if there is one).

The results show that the majority of respondents have been learning general English for 9 years ($M_o=9.00$), 8.48 years being the average length of learning. The coefficient of variation $V=39.20\%$ indicates an insufficiently homogeneous set.

Furthermore, the majority of respondents have been learning technical English for 1 year ($M_o=1.00$), 1.27 year being the average length of learning. The coefficient of variation $V=105.29\%$ indicates an insufficiently homogeneous set.

The answer to the question concerning the final high school grade in English was given by 188 respondents (5 responses are missing). The frequency of grades is shown in Graph 1:



Graph 1. Final high school grade in English

The average final grade in English equals 4.00. The coefficient of variation $V=35.65\%$ indicates an insufficiently homogeneous set, so in this case the mode ($M_o=5.00$) is a more representative mean value.

3.2 Impact of forms of learning English upon self-assessment of linguistic competence in English

In the first part of the questionnaire respondents were asked to mark which of the forms of learning English offered in the questionnaire they used or have been using, and to self-assess their active and passive linguistic competence in English.

Seven different forms of learning were proposed, among which respondents were able to opt for none, one or more forms of learning they used or have been using. Besides, respondents were able to add forms of learning not included in the list.

Table 1 shows the frequency of individual forms of learning selected from the list of forms of learning proposed as answers.

Table 1. Frequency of forms of learning (selected from the list of proposed answers)

Form of learning	Frequency	% (N=193)
In primary / secondary school	172	89.12
Independently, with the aid of computers – offline (e.g., by using multimedia, etc.)	84	43.52
Independently, online	73	37.82
Independently, without the aid of computers (e.g. reading literature in English, etc.)	62	32.12
In a foreign language school	55	28.50
In direct contact with a native speaker	41	21.24
In a language course abroad	3	1.55

The most frequent form of learning is that in primary / secondary school, followed by independent learning in several sub-forms (with the aid of computers – offline, with the aid of computers – online, without the aid of computers), learning in a foreign language school, learning in direct contact with a native speaker and, as the least represented form, in a language course abroad.

Among other forms of learning the most frequently mentioned ones are television (films, series, cartoons), pre-school language courses, online computer games (World of Warcraft), private lessons, education abroad (English-speaking countries), participation in international associations.

Furthermore, the analysis of the number of different forms of learning per respondent was made. The obtained data are shown in Table 2.

Table 2. Number and percentage of respondents per number of different forms of learning English

Number of different forms of learning English per respondent	Number of respondents	%
None (no response)	3	1.55
1	63	32.64
2	43	22.28
3	37	19.17
4	20	10.36
5	14	7.26
6	11	5.7
7	2	1.04

Table 2 shows that a majority of respondents practice 1 form of learning, with the number of respondents still reversely proportional to the number of different forms of learning practiced. Next question was related to students' self-assessment of their active and passive linguistic competence in English.

192 respondents (one response is missing) have self-assessed their passive linguistic competence in English (e.g. listening comprehension, reading comprehension) on the scale from 5 (excellent) to 1 (unsatisfactory). Considering the variable examined, respondents form a homogeneous set ($V=22.71\%$), with their passive linguistic competence in English self-assessed with the average grade of 4 – very good ($\bar{x}=4.02$).

A lower grade – 3 – very good ($\bar{x}=3.37$) was obtained from 192 respondents self-assessing their active linguistic competence in English (1 response is missing). The respondents form an insufficiently homogeneous set ($V=30.61\%$) with the representative mode $M_0=3.00$.

Such results may be explained by a high proportion of individual forms of learning in which passive language skills prevail (reading, listening, in other words, comprehension), which are also dominant skills in learning a language in regular schools, owing to a large number of children and traditional teaching methods.

On the basis of the obtained results, correlations between the number of various forms of learning and respective forms of learning English as well as the self-assessed level of linguistic competence in English were investigated.

In line with our expectations, the number of different forms of learning significantly positively correlates with the self-assessed level of active ($r=0.4999$, $N=192$, $p=0.000$, two-tailed) and passive ($r=0.4620$, $N=192$, $p=0.000$, two-tailed) linguistic competence in English.

In other words, the self-assessed level of linguistic competence in English will be higher in proportion with a greater number of different forms of learning.

The most frequent form of learning is learning in primary / secondary school (formal and informal methods /forms). The obtained Pearson's correlation coefficient indicates its slight correlation with the self-assessed active ($r=0.3032$, $N=192$, $p=0.000$, two-tailed) and passive linguistic competence in English ($r=0.2811$, $N=192$, $p=0.000$, two-tailed). As an example of formal but non-obligatory form of learning, learning a foreign language in a foreign language school was examined. The research shows that there is a slight correlation between learning a foreign language in a foreign language school with the self-assessed active ($r=0.2350$, $N=192$, $p=0.001$, two-tailed) and passive ($r=0.2170$, $N=192$, $p=0.002$, two-tailed) linguistic competence in English. There is a slight correlation between learning English in direct contact with a native speaker with the self-assessed

active ($r=0.3719$, $N=192$, $p=0.000$, two-tailed) and passive ($r=0.2844$, $N=192$, $p=0.000$, two-tailed) linguistic competence in English.

Table 3. Correlation between forms of learning and students' active and passive competence in English

Form of learning	Self-assessed level of passive competence in English (N=192)		Self-assessed level of active competence in English (N=192)	
	r	p	r	p
In primary / secondary school	0.2811	0.000	0.3032	0.000
In a foreign language school	0.2170	0.002	0.2350	0.001
Independently, without the aid of computers (e.g. reading literature in English, etc.)	0.3432	0.000	0.3622	0.000
Independently, with the aid of computers – offline (e.g., by using multimedia, etc.)	0.2849	0.000	0.2840	0.000
Independently, online	0.2342	0.001	0.2339	0.001
In a language course abroad	0.1363	0.059	0.1597	0.027
In direct contact with a native speaker	0.2844	0.000	0.3719	0.000

Table 3 shows Pearson's correlation coefficients (r) between practiced forms of learning and the self-assessed level of active and passive competence in English.

In passive competence in English the highest (and positive) correlation coefficient ($r=0.3432$, $N=192$, $p=0.000$, two-tailed) was obtained for the form of learning "Independently, without the aid of computers", which can be explained by the prevalence of passive skills and lack of active interaction in this form of learning. For a similar form of learning "Independently, with the aid of computers – offline" the obtained correlation coefficient equals ($r=0.2849$, $N=192$, $p=0.000$, two-tailed).

Concerning active competence in English, the highest (and positive) correlation coefficient ($r=0.3719$, $N=192$, $p=0.000$, two-tailed) was obtained for the form of learning "In direct contact with a native speaker", which can be explained by the prevalence of active skills in this form of learning, with a strong emphasis on interaction and production. The second highest correlation coefficient was obtained for the form of learning "Independently, without the aid of computers" ($r=0.3622$, $N=192$, $p=0.000$, two-tailed). It is interesting that this form of

Table 4. Statistical indicators of gradation of statements concerning importance, motivation, satisfaction with instruction in the English course and other affective aspects of learning

Statement	Statements according to grades (N=193)						V (%)	Measures of central tendencies	
	5	4	3	2	1	No response		Mo	\bar{x}
I am motivated for learning English.	37	61	68	21	6	0	28.94	3.00	3.53
Knowledge of English is important for my future profession.	110	69	12	1	0	1	14.20	5.00	4.50
I enjoy learning English.	30	59	71	20	11	2	31.03	3.00	3.40
I am satisfied with the methods of instruction in English Language 1.	28	60	55	33	14	3	34.63	4.00	3.29
I am satisfied with the content of English Language 1.	32	61	59	28	11	2	32.54	4.00	3.39
I am satisfied with the teaching materials in English Language 1.	39	59	59	22	12	2	32.45	3.00	3.48
I feel comfortable using English actively.	59	58	54	12	5	5	27.08	5.00	3.82

learning equally correlates with both active and passive competence in English.

It can be assumed that the obtained result arises from the perception of learning “Independently, without the aid of computers” (e.g. reading literature in English) as a prerequisite for both active and passive competence in English.

3.3 English language: respondents' assessment of importance, motivation, satisfaction with instruction and other affective aspects of learning

In one of the logical units in the questionnaire, respondents were asked to express their opinion about the importance of competence in English for their future profession, motivation for learning English, satisfaction with instruction in a particular tertiary-level language course and other affective aspects (enjoyment in learning and comfortableness in speaking English).

It is evident from Table 4 that, although respondents expressed a high degree of importance of English for their future profession assigning it grade 4 ($\bar{x}=4.50$), as the general grade, the evaluation of the level of motivation for learning English is lower and equals 3 (Mo=3.00, V=28.94%, $\bar{x}=3.53$), whereas students expressed their enjoyment in learning English by assigning it grade 3 (Mo=3.00, V=31.03%, $\bar{x}=3.40$).

It can be assumed that such an attitude has impact on the evaluation of satisfaction with the methods of instruction (Mo=4.00, V=34.63%, $\bar{x}=3.29$), content (Mo=4.00, V=32.54%, $\bar{x}=3.39$) and teaching materials (Mo=3.00, V=32.45%, $\bar{x}=3.48$) in the English Language 1 course. Despite the expressed grades for the statements above, respondents assigned a very high grade to comfortableness in using English actively (Mo=5.00, V=27.08%, $\bar{x}=3.82$).

3.4 Expressed interest in enrolling in the offered study courses in English

As it had been presupposed that for a certain number of courses a possibility to deliver them in either Croatian or English will be offered, students were asked to express their interest for the aforementioned eight courses. Table 5 shows the frequencies of responses to the question concerning the intention to enrol in the offered study courses, in Table 6 students' responses are shown in percentages, whereas Table 7 shows the number and percentage of students against number of courses in which they intend to enrol in English.

It is evident from Table 6 showing the percentages of participants intending to enrol in the offered study courses and those related to the language of instruction that most respondents intend to enrol in Multimedia Systems (95.81%), followed by Databases 1 (88.36%) and Business Processes in

Table 5. Frequencies of responses to the question concerning the intention to enrol in the offered study courses

Study course	In English	In Croatian	No intention	No response
Selected Chapters in Biometrics	16	73	100	4
Business Communication	64	86	40	3
Discrete Structures and Graph Theory	8	104	74	7
Business Processes in Organizations	33	121	34	5
Operations Research	26	119	41	7
Decision Theory	18	127	44	4
Multimedia Systems	72	111	8	2
Databases I	24	143	22	4

Table 6. Percentages of participants intending to enroll in the offered study courses including percentages related to the language of instruction

Study course	Responses	Intention to enrol in the course	Intention to enrol in the course %	In English %	In Croatian %
Selected Chapters in Biometrics	189	89	47.09	17.98	82.02
Business Communication	190	150	78.95	42.67	57.33
Discrete Structures and Graph Theory	186	112	60.22	7.14	92.86
Business Processes in Organizations	188	154	81.91	21.43	78.57
Operations Research	186	145	77.96	17.93	82.07
Decision Theory	189	145	76.72	12.41	87.59
Multimedia Systems	191	183	95.81	39.34	60.66
Databases I	189	167	88.36	14.37	85.63

Organizations (81.91%). Among the offered courses, the mentioned courses constitute the core of the profession in question. For each of the courses respondents prefer instruction in Croatian, but for some of the courses a higher level of students' interest in sitting those courses in English was expressed: Business Communication (42.67%), Multimedia Systems (39.34%) and Business Processes in

Organizations (21.43%). The largest disproportion between readiness to sit in a course in English and Croatian was expressed for the course Discrete Structures and Graph Theory (7.14 % for sitting the course in English and 92.86% for sitting the course in Croatian). The reason for that may be the fact that students find Mathematics to be a difficult subject, and instruction in English would additionally hinder comprehension, as students on the whole have previously not been in touch with the mathematical jargon.

Table 7. Number and percentage of students against number of study courses in which they intend to enrol in English

Number of courses in which individual respondents intend to enrol in English	Number of students	% students
None	99	51.30
1	29	15.03
2	23	11.92
3	19	9.84
4	8	4.14
5	6	3.11
6	1	0.52
7	3	1.55
8	5	2.59

Table 7 shows that as much as 51.30 % students do not intend to enrol in a single study course in English. Although respondents perceive the importance of English for their future profession, and self-assess their (active and passive) linguistic competence in English as relatively high, they are still not ready to prove it in practice by participating in instruction in English.

4 Discussion

In the research conducted among students of the undergraduate study course English Language 1, formal indicators of their pre-knowledge of English were obtained, followed by indicators of motivation for learning English, attitude toward the importance of linguistic competence in English for their future profession, satisfaction with instruction in a concrete tertiary-level language course, other affective aspects of learning (enjoyment in learning and comfortableness in speaking English) as well as their interest for enrolling in particular courses in English.

The research was conducted so as to predict the possibility of student mobility and the impact of the language barrier on mobility among students of the Faculty of Organization and Informatics.

Among the goals of the Bologna Process are facing the challenge of the knowledge economy and the development of a European dimension in education, and increasing the quality and quantity of student exchanges both contribute to that goal. It can

be assumed that the necessary pre-conditions for enhancing student mobility are the pre-knowledge of English as the most common international medium of instruction and motivation for mobility.

The survey results (high-school grade and self-assessment of competence in English) indicate a satisfactory level of competence in English among undergraduate students. However, half of the respondents are not willing to accept the challenge of enrolling in the offered study courses in English. Possible reasons for that include:

- goal-oriented learning, in the context of which passing the exam in a course in which sitting the course (and possible, sitting for the exam in the course) in English requires additional (unnecessary) effort
- overestimated linguistic competence in English, especially active competence, and
- lack of motivation for development of generic skills.

Furthermore, students are more likely to sit a course in a foreign language if they are familiar with technical jargon (for instance, mathematical jargon).

It is evident that in order to meet the preconditions for student mobility more attention should be given to developing motivation for learning foreign languages and raising students' awareness of the need to improve a whole array of generic skills, particularly language skills.

In addition, during their studies students should be occasionally exposed to lectures and discussions in English to encourage them to use their professional English jargon outside the English language classroom.

We cannot but mention, however, that the delivery of certain courses in English presupposes additional resources, such as didactically appropriate and accessible literature in English, training of the teaching staff – professors and assistants – to deliver instruction in English, and a corresponding virtual learning environment.

The aim of further research is to determine a correlation between readiness for mobility and the level of competence in foreign languages, including other factors to potentially affect students' readiness for mobility.

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